

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 2

REMARKS

Claims 8, 11-14 and 17-18 remain pending after amendment.

The Claimed Invention

Applicants' invention is directed to a cylindrical printing blanket comprising a seamless sleeve and a sheet-like blanket having a first fabric layer, a compressive layer, a second fabric layer, and a surface printing layer, said sheet-like blanket being bonded onto the outer surface of said seamless sleeve. A layer of a spirally wound thread in an adhesive is used to bond the blanket to the sleeve.

The claimed invention is characterized in that the thread layer is spirally wound on the bottom side of the compressive layer in order to tighten the sleeve, with the sleeve mounted on a cylinder of a diameter smaller than the cylinder of the printing press. Applicants have found that higher durability can be achieved by an embodiment where the sleeve is held in place by the thread layer. See the disclosure at page 9 of the specification in this regard. Further, the sleeve-like blanket of the present invention can be attached to the printing cylinder without slipping even when used in high-speed printing.

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 3

The following distinctions exist between the teachings of the prior art (as exemplified by the cited Okubo et al patent) and the claimed invention:

- (1) Applicants' claimed blanket has fabric layers instead of the base layer of Okubo et al;
- (2) Okubo et al has a non-stretchable layer (the thread layer) between the compressive layer and the surface printing layer. In the present invention the thread layer is formed by winding a thread in spiral configuration on a sleeve via an adhesive elastomer, an embodiment which is distinct from the teachings of Okubo et al.

Further, the claimed blanket possesses advantages not otherwise possessed by the blanket of Okubo et al. The Examiner's attention is directed to the comparative data at Tables 8 and 9 of the instant specification. As discussed above, Comparative Example 2 in the present specification corresponds to the method of Example 3 of Okubo et al.

The results of Comparative Example 2 are discussed at page 45 of the specification as follows:

"In Table 8, Comparative Example 2 that is the cylindrical printing blanket of the prior art, experienced quicker setting of the upper layer due

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 4

to creep since the thread layer formed over the compressive layer and below the printing layer by winding the thread while applying tension generates a compressive stress in the layers below the compressive layer. The cylindrical printing blanket of the present invention, on the other hand, does not experience early set in fatigue since the compressive layer is not subject to excessive stress. Comparison of the amount of set in fatigue is shown in Fig. 3".

In view of the above distinctions that exist between the claimed invention and the cited prior art, and given the advantages over the cited prior art demonstrated to exist in the comparative data presented in the specification, the claimed invention is neither disclosed nor suggested by the prior art.

Rejection of Claims 8, 14, 17 and 18 under 35 USC 103(a)

Claims 8, 14, 17 and 18 stand rejected under 35 USC 103(a) as being unpatentable over Beltzung et al in view of Okubo et al.

In support of the rejection, the Examiner states the following at page 2 of the Action:

"Beltzung et al teaches a cylindrical printing blanket (Fig. 2) comprising a sheet-like blanket being bonded to an outer surface of said sleeve, said sheet like blanket comprising in order a first fabric layer (6) having a thickness (see col. 4, lines 1-5) in the range of 0.1 to 0.5 mm, a compressive layer (5), a 2nd fabric layer having a thickness (see col. 4, lines 1-5) in the range of

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 5

0.1 to 1.5 mm and a surface printing layer (1). However, Beltzung [Batti] doesn't teach the sheet-like blanket being bonded by a spirally wound threaded layer. Okubo et al teaches the use of a spirally wound threaded layer (32a) to bond together layers of a blanket. It would have been obvious to modify Beltzung et al to have a seamless sleeve having a sheet-like blanket cylinder bonded by a threaded layer as taught by Okubo et al since he teaches a threaded layer is beneficial for providing a tight sealing agent."

This rejection respectfully is traversed.

As noted from the above, the Examiner acknowledges that the Beltzung et al patent neither discloses nor suggests the claimed invention, at least in part due to the failure of the reference to "teach the sheet-like blanket being bonded by a spirally wound threaded layer."

However, additional distinctions exist over Beltzung. The patent discloses an elastic and compressible printing blanket, comprising an outer lithographic or printing layer, a hard elastomer layer, a three-layer unit (first and second cellular rubber layers and a fabric layer), and the three-layer unit being mounted around a cylinder as described in claim 1. Further, as shown in Fig. 2 of Beltzung, this printing blanket is a sheet-like blanket mounted around a cylinder.

Thus, while the Examiner asserts that Beltzung teaches a cylindrical printing blanket comprising a sheet-like blanket

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 6

being bonded to an outer surface of a sleeve, the Examiner's conclusion is without basis. The sheet-like blanket of the reference is mounted around a cylinder, not a seamless sleeve as claimed.

The Examiner cites Okubo et al as teaching the use of a spirally wound threaded layer (32a) to bond together layers of a blanket.

Okubo et al discloses a printing blanket comprising a seamless base layer comprising an elastomer which is substantially incompressible; a porous seamless compressible layer comprising an elastomer; a non-stretchable layer comprising a non-stretchable thread which is wound on the compressible layer in helical fashion along the circumferential direction; and a seamless surface printing layer comprising an elastomer, all of which are provided in the stated order on an outer peripheral surface of a cylindrical sleeve mounted on a blanket cylinder.

However, Okubo et al does not make reference to element "32(a)" as asserted by the Examiner. Element "32" identifies an adhesive layer, not a thread layer.

In any event, in the reference, the non-stretchable layer 3 is wound on the adhesive layer 33 between the porous

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 7

compressible layer 2 and the surface printing layer 4 as illustrated in Figure 1. Non-stretchable layer 3 is formed by winding a non-stretchable wire rod on the compressible layer 2 in a circumferential direction in helical fashion while applying tension thereto (see column 50, lines 51-60, and Figures 1 and 2 of the reference).

In contrast to Okubo et al, the claimed invention comprises a seamless sleeve and a sheet-like blanket bonded to an outer service of the sleeve, with the diameter of the sleeve being equal to or slightly less than the diameter of the cylinder of the printing press. The thread layer 4 of applicants' invention is formed between the sleeve 2 and the first fabric layer 5a.

There is also a significant difference between applicants' invention and the teachings of Okubo et al with respect to the position of the thread layer during formation of the printing blanket. As to the formation of the non-stretchable thread layer, Okubo et al states as follows:

"The base layer also functions, together with the non-stretchable layer, to prevent the elastic rebound caused by the printing blanket when it is released from compression after passing the nip deformed portion, from generating a large expansion in the radial direction and the resulting ordinary waves" (column 3, lines 20-25).

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 8

Thus, in the reference the non-stretchable thread layer 3 is formed between the surface printing layer 4 and the compressible layer 2, in circumferential direction in helical fashion while applying tension. The thread layer is located on the upper position of the base layer in order to have a holding function necessary for this type of blanket and to stabilize the surface printing layer free from a distortion due to the compressible layer (see Figs. 1 and 2).

In the claimed invention, the thread layer 4 is formed between the sleeve 2 and the first fabric layer 5a to improve holding the sleeve on the cylinder (see page 13 of applicants' specification).

In the present invention, it is unnecessary to arrange a non-stretchable layer as in Okubo et al because the surface printing layer is arranged on the compressive layer via a fabric layer 5a (Figure 1). As discussed above, the claimed blanket is superior to that of Okubo et al as demonstrated by Comparative Example 2 of applicants' specification.

The Examiner states with respect to claim 14 that the "printing blanket of Beltzung et al is filled with a compressible elastomer layer 3 and 5". However, claim 14 states that the "seam is filled by filling same with a compressible

Attorney Docket No: 2809-0114P
Application No. 09/657,813
Page 9

elastomer." The compressible elastomer layers 3, 5 in Beltzung et al are not used for sealing seams. The Examiner is invited to compare elastomer layers 3, 5 in Fig. 2 of the reference with elastomer seam 9 in Figure 2 of applicants' specification.

The Examiner further states that "with respect to claim 17, the cylinder printing blanket of Beltzung (Fig. 2) has a first or second fabric layers may be comprised of multiple layers of fabric laminated together". However, Beltzung et al does not teach the bonding of a sheet-like blanket containing a fabric layer to an outer surface of a seamless sleeve, as discussed above.

The Examiner accordingly not only fails to identify the necessary motivation in Okubo to modify Beltzung to result in the claimed invention, but the respective teachings of the references cannot be combined to result in the claimed invention in the manner asserted by the Examiner.

Further, the references, taken either singly or in combination, fail to disclose or suggest the embodiment of amended claim 8, which now requires the presence of first and second fabric layers of specified thickness on each side of the compressive layer. The references also fail to teach or suggest the formation of the thread-wound sleeve on a cylinder of a

Attorney Docket No: 2809-0114P
Application No. 09/657,815
Page 10

diameter that is 0.05% to 1.0% smaller than the diameter of a cylinder of a printing press upon which the blanket is to be mounted.

In view of the above, applicants' claimed invention is neither disclosed nor suggested by the combined teachings of the references.

The rejection is thus without basis and should be withdrawn.

Rejection of Claims 11-13 under 35 USC 103(a)

Claims 11-13 stand rejected under 35 USC 103(a) as being unpatentable over Beltzung et al in view of Okubo et al and Kobler et al. This rejection respectfully is traversed.

The deficiencies of Beltzung et al and Okubo et al are discussed at length above. Such deficiencies are not addressed by the Kobler patent which is cited solely to show the use of a sealed seam. As a result, the rejection is without basis and still should be withdrawn.

The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

Attorney Docket No: 2809-0114P

Application No. 09/657,815

Page 11

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

Applicant respectfully petitions under the provisions of 37 CFR 1.136(a) and 1.17 for a one month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

Joseph A. Kolasch

Reg. No. 22,463

JAK/JWH

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000